

MPM 2D Date: _____

Special Expansion Patterns
 Trust me, these patterns will become your best friends!

$(x - y)(x + y) =$ difference of squares
 $(x^2 - y^2)$

$(a + b)^2 =$ perfect squares
 $(a^2 + 2ab + b^2)$

$(a - b)^2 =$ perfect squares
 $(a^2 - 2ab + b^2)$

Apr 10-1:22 PM

MPM 2D Date: _____

Special Expansion Patterns
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Difference of Squares
 $(x - y)(x + y) = x^2 + \cancel{xy} - \cancel{xy} - y^2$
 $= x^2 - y^2$

Perfect Square
 $(a + b)^2 = a^2 + 2ab + b^2$
 $(a - b)^2 = a^2 - 2ab + b^2$

- square first
 - square last
 - multiply 2 terms together!
 double.

Apr 5-11:40 AM

Use the *Special Expansion Patterns* to simplify the following:

a) $(3x - 4)(3x + 4)$ b) $(x - 3)^2$

c) $(2x + 3y)^2$ d) $2(x - 5y)^2$

e) $-3(2x - 7y)(2x + 7y)$ f) $(2x - 9)^2 - (x + 4)^2$

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Use the *Special Expansion Patterns* to simplify the following:

a) $(3x - 4)(3x + 4) = 9x^2 - 16$

b) $(x - 3)^2 = x^2 - 6x + 9$

c) $(2x + 3y)^2 = 4x^2 + 12xy + 9y^2$ (Note: $2x \cdot 3y = 6xy$)

d) $2(x - 5y)^2 = 2(x^2 - 10xy + 25y^2) = 2x^2 - 20xy + 50y^2$ (Note: $x \cdot 5y = 5xy$)

e) $-3(2x - 7y)(2x + 7y) = -3(4x^2 - 49y^2) = -12x^2 + 147y^2$

f) $(2x - 9)^2 - (x + 4)^2 = (4x^2 - 36x + 81) - (x^2 + 8x + 16) = 3x^2 - 44x + 65$ (Note: $-18x$ and $4x$ terms)

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Homework

Pg. 166 # 3 - 6 b,d,f, 7a,c,e, 12, 13
 p. 186 q. 14 - 16

Oct 26-10:10 AM